

TRANSISTOR (NPN)

FEATURES

- High emitter-base voltage
- low on resistance

MARKING: MAX

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	25	V
V_{CE0}	Collector-Emitter Voltage	20	V
V_{EB0}	Emitter-Base Voltage	12	V
I_C	Collector Current -Continuous	0.3	A
P_C	Collector Power Dissipation	0.2	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	12			V
Collector cut-off current	I_{CBO}	$V_{CB}=25\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=12\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE}(\text{FOR})$	$V_{CE}=2\text{V}, I_C=4\text{mA}$	200		1000	
	$h_{FE}(\text{REV})$	$V_{CE}=2\text{V}, I_C=4\text{mA}$	20			
Collector-emitter saturation voltage	$V_{CE}(\text{sat})$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE}(\text{sat})$	$I_C=100\text{mA}, I_B=10\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=1\text{mA}$ $f=100\text{MHz}$		60		MHz
output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		10		pF
On resistance	$R_{(on)}$	$V_{in}=0.3\text{V}, I_B=1\text{mA}, f=1\text{KHz}$		0.6		Ω

Typical characteristics

